asean Ports and Logistics 2025
Reshaping the Transport Logistics Sector in Creating a Path to Global Economic Recovery

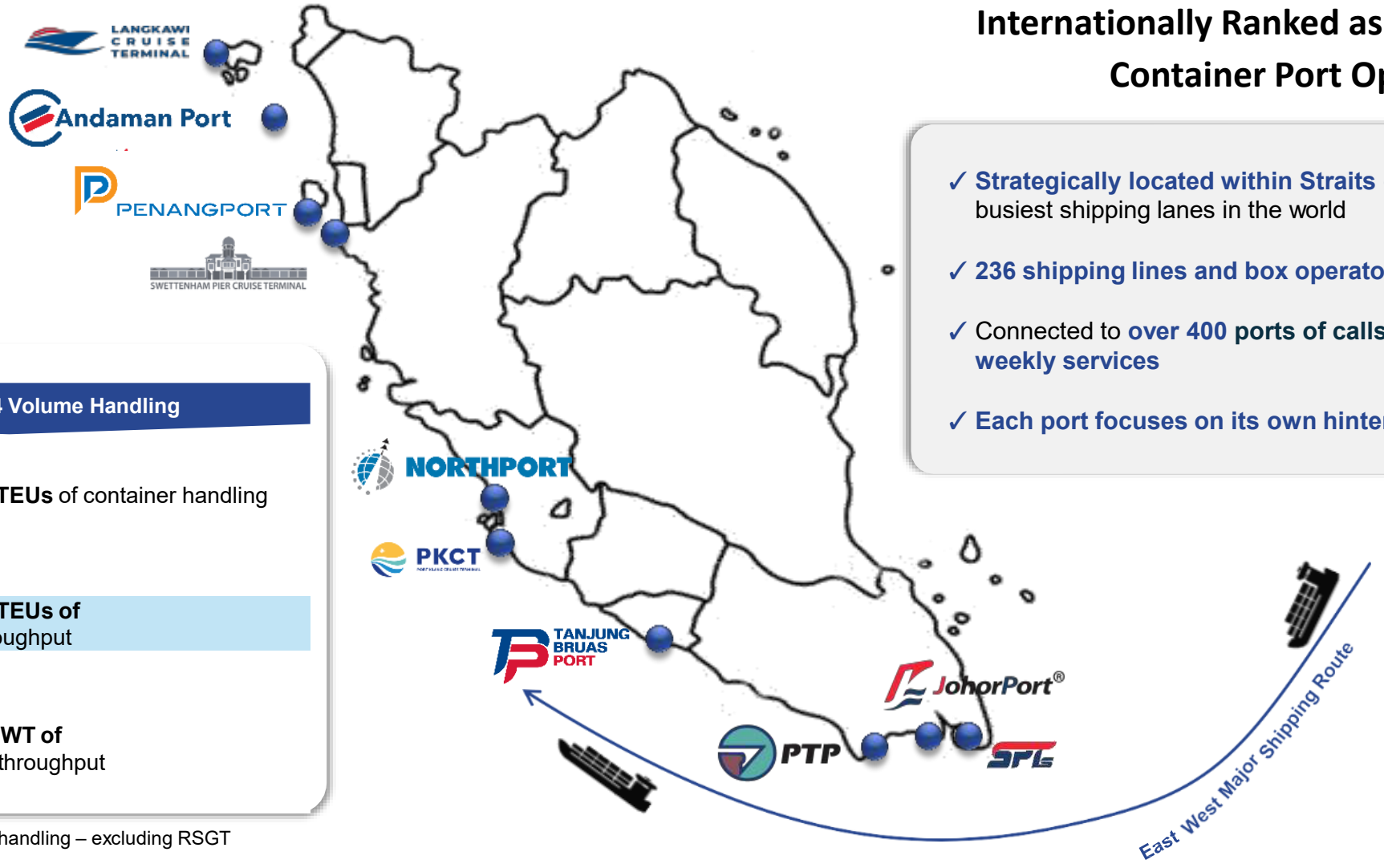
Integrating a Sustainable Strategic Framework in Optimising Port Management Systems for Improved Terminal Efficiencies

Reimagining Port Management For A Sustainable Future

3 July 2025

MMC PORTS

7 Ports and 3 Cruise Terminals



Internationally Ranked as the 8th Largest Container Port Operator

- ✓ **Strategically located within Straits of Malacca,** one of the busiest shipping lanes in the world
- ✓ **236 shipping lines and box operators** calling MMC ports
- ✓ Connected to **over 400 ports of calls** with **more than 181 weekly services**
- ✓ **Each port focuses on its own hinterlands**

MMC Ports: 2024 Volume Handling

23.6* million TEUs of container handling capacity

18.4* million TEUs of Container throughput

36.5 million FWT of Conventional throughput

* Malaysia Container capacity and handling – excluding RSGT

RED SEA GATEWAY TERMINAL

JOHOR PORT - SOUTHERN GATEWAY MULTI-PURPOSE PORT

REGIONAL COMMODITY HUB

- World's single largest Palm Oil Terminal.
- Designated as an approved LME location for hubbing of Non-Ferrous Metals.
- One of the largest discharging point for Cocoa in Malaysia.
- One of the biggest Terminal in Malaysia for Fertilizer.
- Southern Region largest Grain Terminal - discharging of Rice, Corn, Wheat, Soya Bean.
- New Biomass Hub for PKS and Wood Pellets and Minerals Hub for Gold and Copper Concentrates..
- Surpassed Container volume of 1 Mil TEUs.

GATEWAY PORT

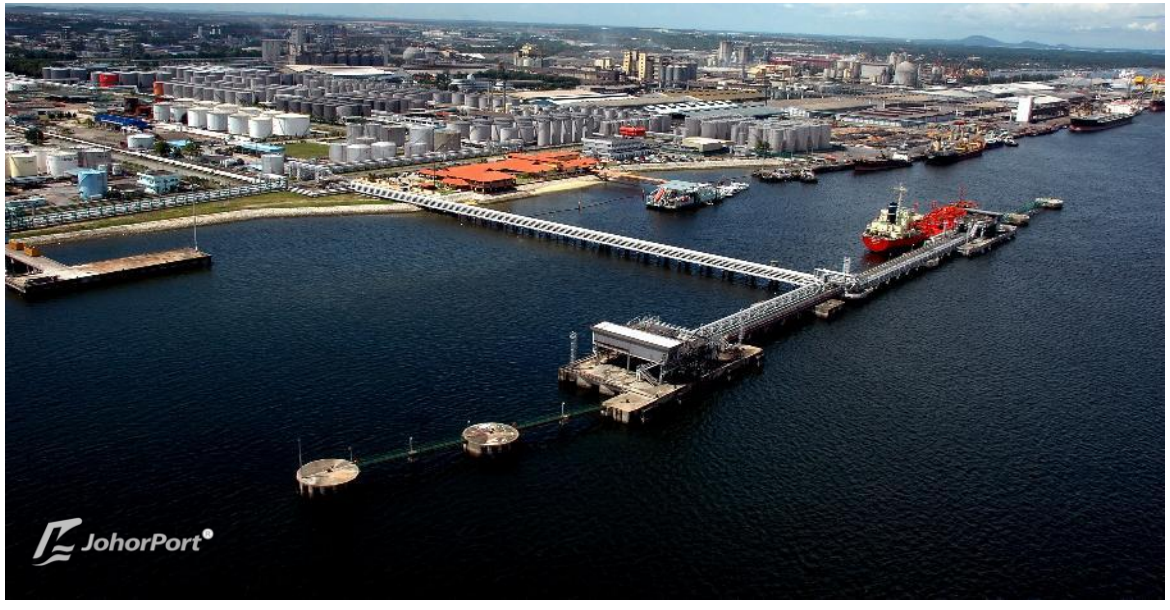
- Connecting ASEAN to the Intra Asia Region
- Load Centre for Sabah & Sarawak
- Gateway for the Indonesian outports
- Excellent Feeder Connectivity

THE ROLE OF PORTS IN GLOBAL TRADE

Ports play a crucial role in facilitating global trade by acting as vital hubs for the movement of goods, connecting various modes of transportation, and supporting economic growth.

- Ports move over 80% of global trade by volume.
- Critical for national logistics, economic security and supply chains.
- Malaysia's ports leverage on strategic geographic position.

Contribute to economic growth by attracting businesses, investments and job creation.



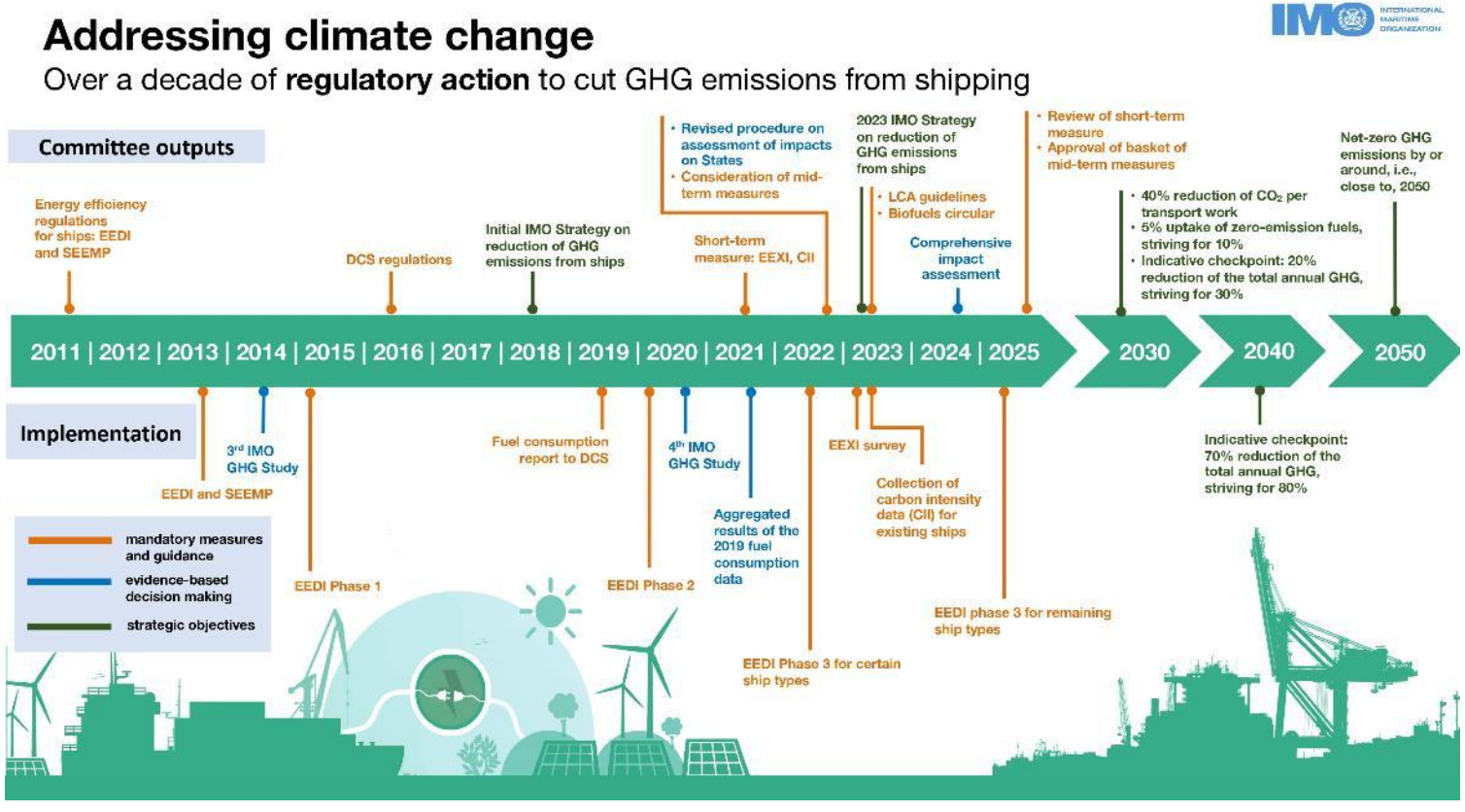
Johor Port
World's single largest Palm Oil Terminal

Port of Tg Pelepas
15th largest port in the world by volume (TEUs)

WHY SUSTAINABILITY MATTERS IN PORT MANAGEMENT

Sustainability in port management is crucial because ports play a vital role in global trade and economic growth while also contributing to environmental challenges.

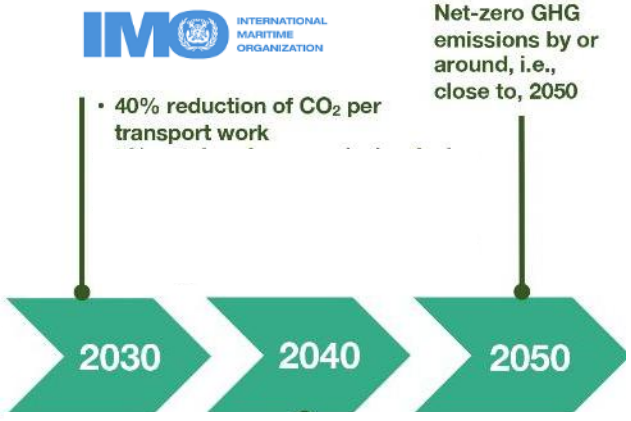
- Environmental regulations (IMO 2030 / 2050)
- Operational cost savings
- Customers demand Greener ports
- Positive community impact
- Reputation and business resilience

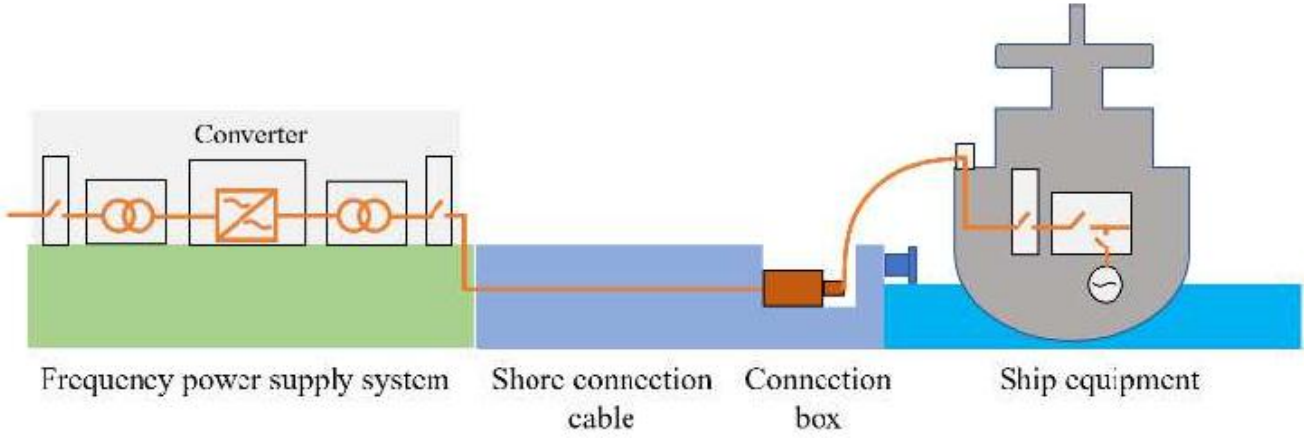


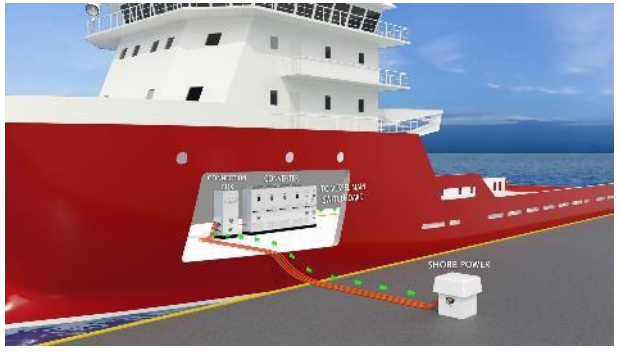
IMO 2030 - 2050 TARGETS – WHAT THEY MEAN FOR PORTS

The International Maritime Organization (IMO)'s targets for 2030, 2040, and 2050 are significant because they represent a global commitment to decarbonize the shipping industry and contribute to broader climate goals.

- 2030: 40% Carbon intensity reduction
- 2050: Near-Zero emissions
- Infrastructure: Shore Power, Electric Vehicles
- Compliance = Competitive Advantage



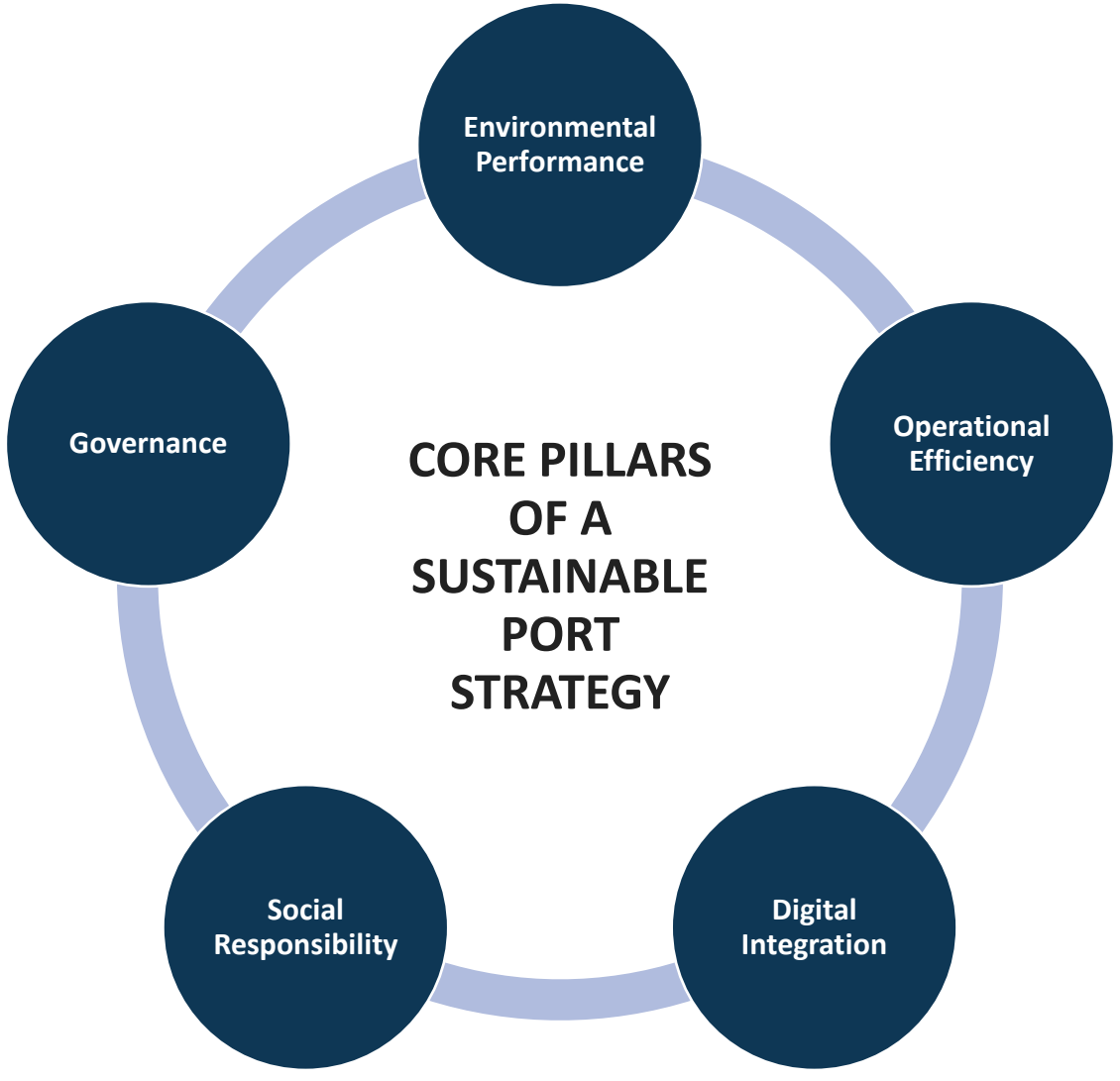




CORE PILLARS OF A SUSTAINABLE PORT STRATEGY

A Sustainable Port Strategy and the success of contemporary port operations relies on relies on 5 Core Pillars:

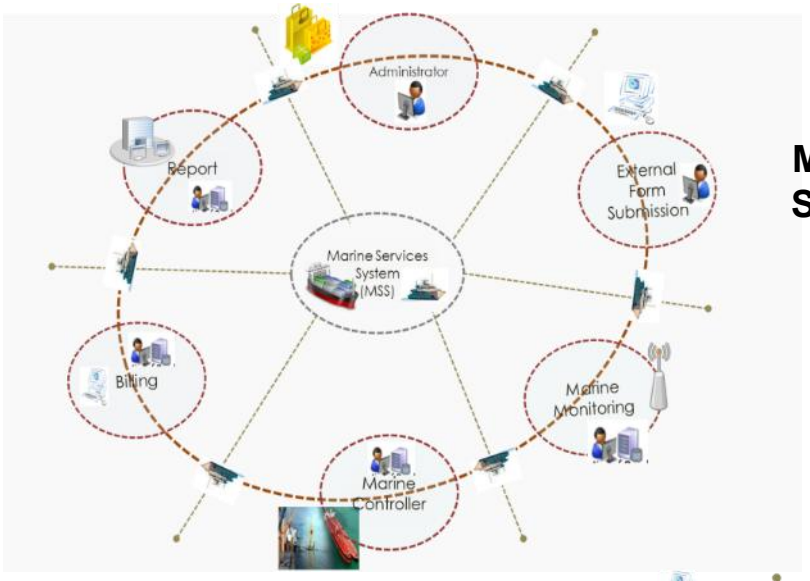
1. Environmental Performance: Energy, Water, Emissions
2. Operational Efficiency: Reduce waiting and idle time
3. Digital Integration: Real-time data, Automation
4. Social Responsibility: Workers, Safety, Community
5. Governance: ESG Standards, Compliance, KPIs



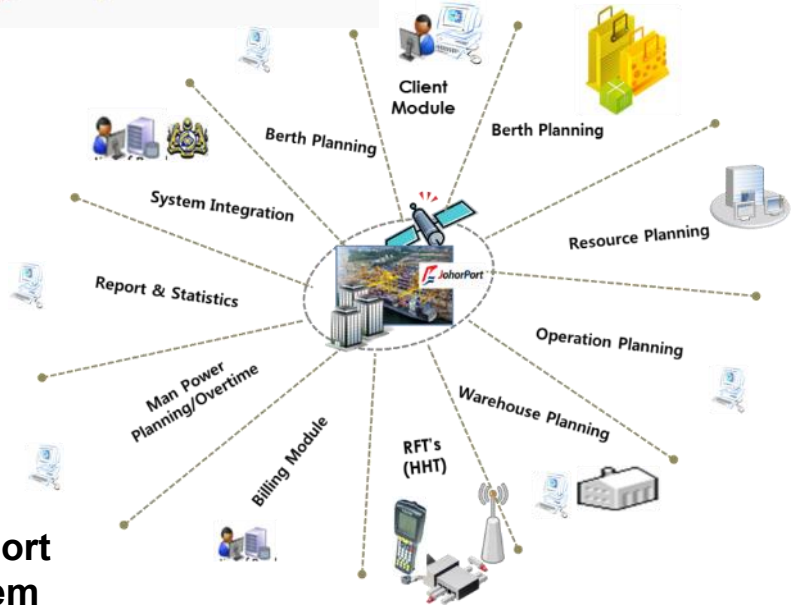
PORT MANAGEMENT SYSTEMS (PMS)

- Port Management Systems (PMS) play a crucial role in enhancing operational efficiencies by automating processes, improving data visibility, and facilitating better coordination among stakeholders.

- These Systems streamline various aspects of port operations, from cargo handling to vessel berthing, ultimately leading to faster turnaround times, reduced costs, and increased throughput.



Marine Services System (“MSS”)



Multipurpose Port Terminal System (“MPTS”)

DIGITALISATION – THE ENGINE BEHIND SMART & SUSTAINABLE PORTS

Port Digitalization involves using digital technologies to transform various aspects of port operations, aiming to enhance efficiency, transparency and competitiveness.

- Enables predictive analytics, automation.
- Cuts Fuel consumption and delays
- Real-time visibility improves decisions
- Case: PTP's AI Yard Planning and RFID tracking.

JOHOR PORT'S DIGITALISATION INITIATIVES 2025

Gate Automation for Container Terminal

- Current Gate process is manual and paper-based.
- With automation, Truck queuing time will reduce from 3 minutes to 30 seconds per Truck.
- Reduce human error, especially on Data entry.

Mobile Apps (JCT Truck Drivers)

- Mobile app is integrated with the Gate Automation System.
- Truckers can perform pre-Gate appointment via the Vehicle Booking System ("VBS") system.
- Yard status and Yard location information are available for Import/Export Containers.
- Will avoid congestion in the Container Yard.

Unmanned Weighbridge System at Breakbulk Terminal

- High truck volume cause queues, delays, and inefficiency.
- The current process is time-consuming and prone to human error.
- Automation will reduce processing time from 3 minutes to 30 seconds and will improve traffic flow.

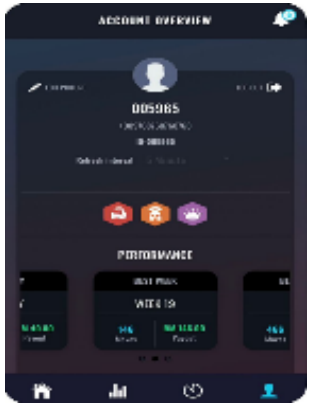
Mobile Apps (BBT Truck Drivers)

- Mobile app is integrated with the Unmanned Weighbridge system.
- Truckers can access key information including cargo tracking, weighbridge locations, and storage locations.
- Support faster Truck turnaround time by guiding Truckers through pre-Gate booking and the Unmanned Weighbridge process.

JOHOR PORT'S DIGITALISATION INITIATIVES 2025 (cont'd)

Mobile Apps (JCT & BBT Operations Staff)

- Operations staff can view their performance, Box / Tonnage allowance, Point of Work deployment through the Online System.
- This initiative is an internal effort by JCT & BBT and ICT.
- It helps to streamline workflow and improve daily operations.



JCT & BBT Asset Digitalisation (Twin Digital)

- Provides a comprehensive view of the Port's real-time operation, equipment status, throughput and other information.
- Provide predictive maintenance to flag before faults occur and eliminate downtime.

Mobile Apps (Customer)

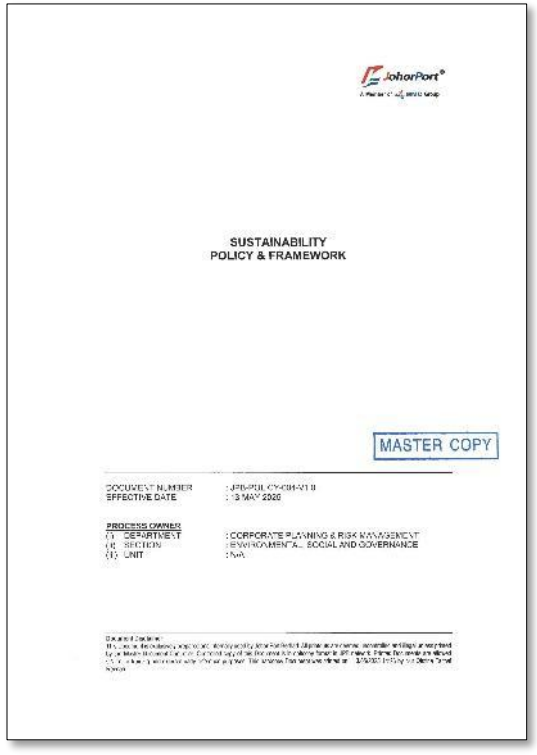
- Provide JPB customers with real-time visibility of Vessel / Container information.
- This initiative is an internal effort by the ICT for the Port Users.
- Officially launched the JPBi General Inquiry App (GIA) on 2nd May 2025.

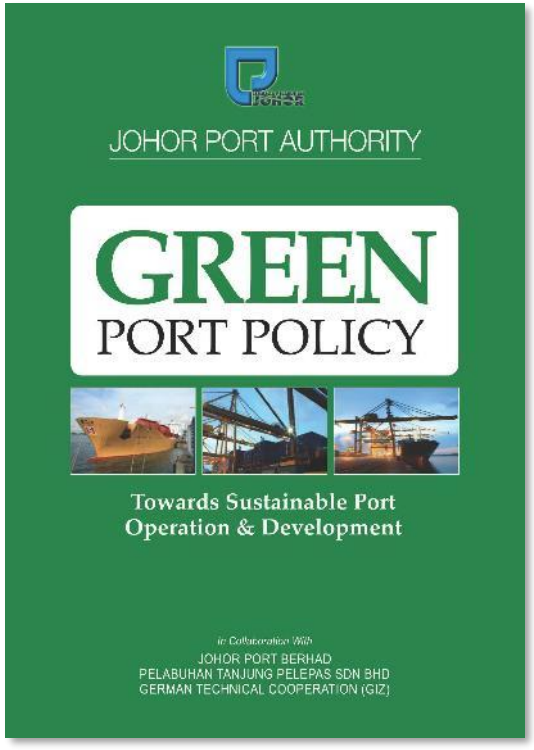
JOHOR PORT'S ROADMAP FORWARD

By leveraging on the capabilities of PMS, ports have been enhancing their Operational efficiency, improving on their Service levels and contributing to the overall efficiency of global supply chains.

For Johor Port, the next phase in strategic Port Management to ensure a smart and sustainable Terminal would be to incorporate the 2 cornerstones of Digitalization and ESG.

- Launch of Green Port Programme
- ESG-aligned Governance
- Collaboration within MMC Ports
- Training, Innovation and Investment in Technology



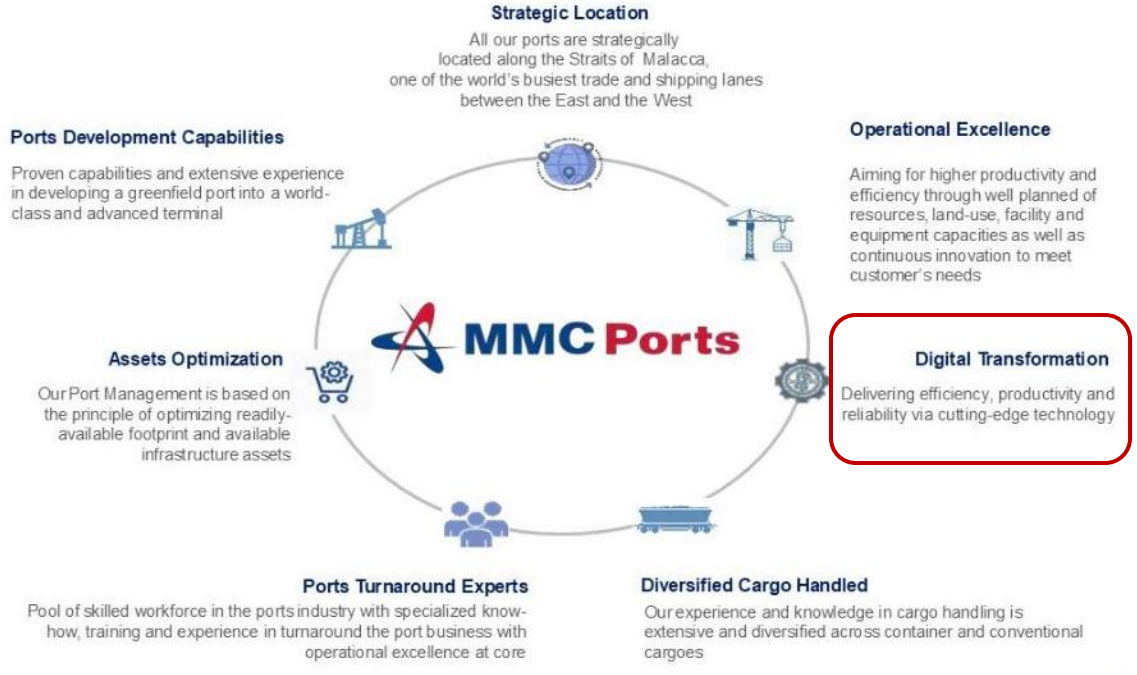


REIMAGINING PORT MANAGEMENT FOR A SUSTAINABLE FUTURE

Reimagining Port Management for a sustainable future involves integrating environmental, social, and economic considerations into all aspects of port operations, from energy efficiency to waste management and community engagement.

Key strategies include reducing emissions, implementing Green technologies, improving intermodal transport, and promoting circular economy practices.

- Ports must lead in Sustainability and Innovation
- Digitalisation is key
- Future-focused, Customer-ready, Community-aligned



THANK YOU

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